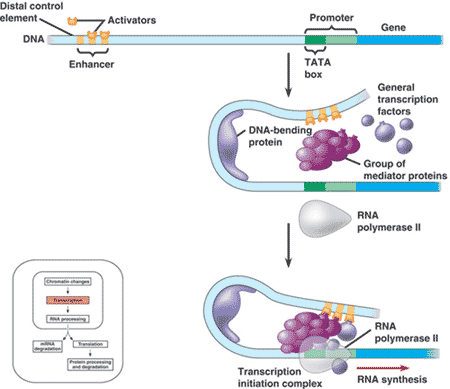
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Notes Questions for the Unit 13, Part 1 Notes: Development of Organisms**

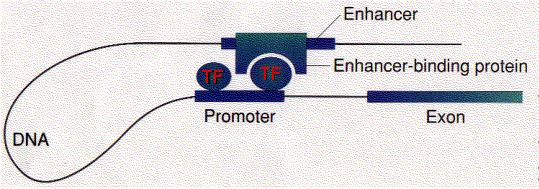
Ms. Ottolini, AP Biology

1. Identify the role of the activator proteins in eukaryotic gene expression (see picture below).

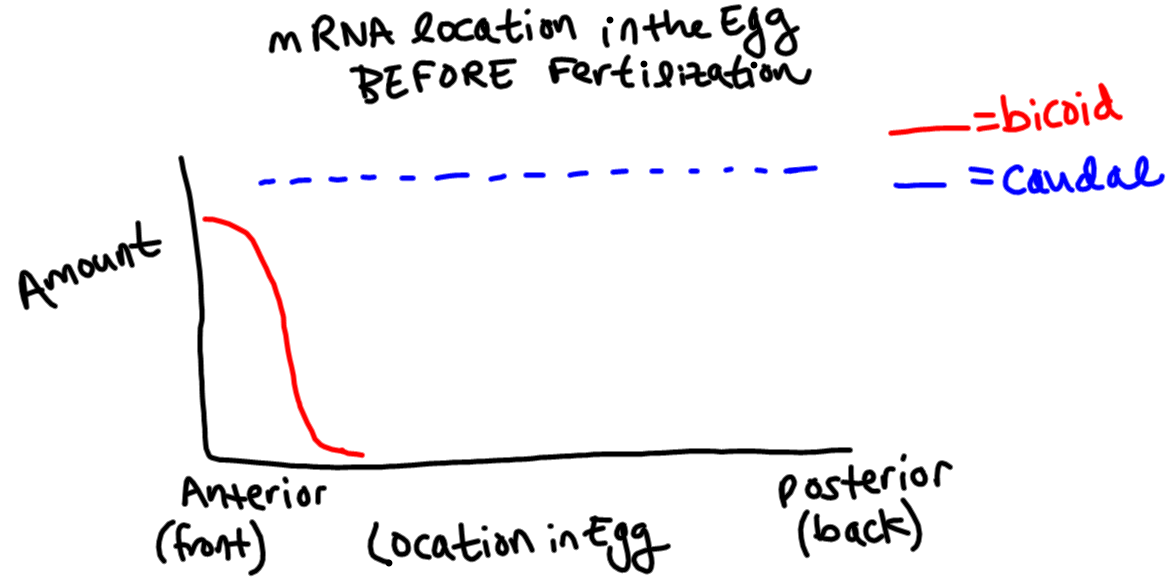


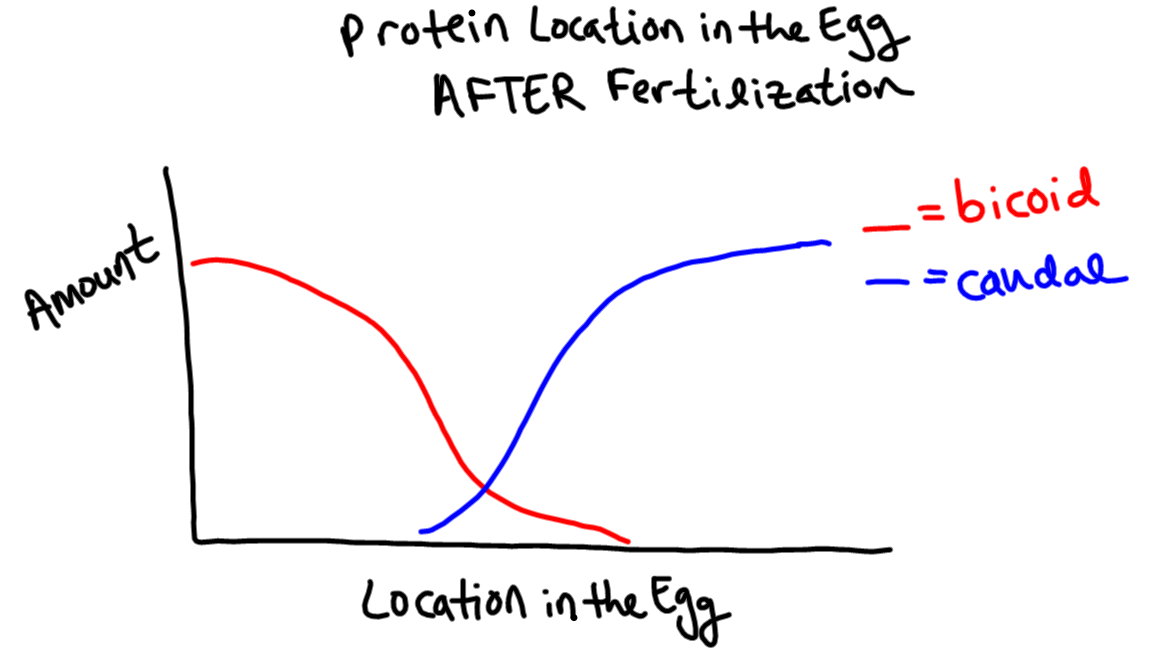
1. Explain the role of apoptosis in development and describe HOW apoptosis occurs within a cell.
2. Let’s say the exon pictured in the eukaryotic DNA sequence in the image below codes for the production of the muscle protein myosin. Describe how it is possible for this gene to be turned on in muscle cells but not other cell types.

Remember: Another name for the “enhancer-binding protein” is the ACTIVATOR.

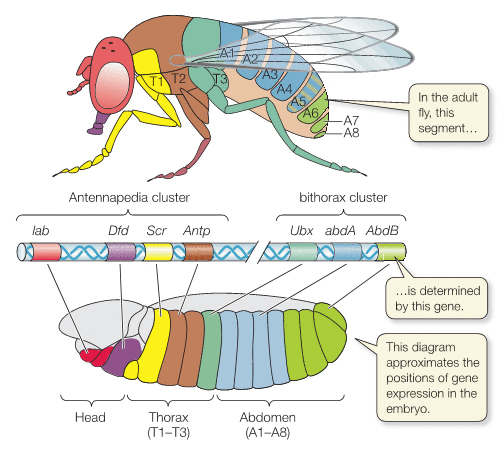


1. How does the presence of bicoid mRNA in the anterior (head) region of a fly embryo affect the translation of caudal mRNA to make caudal protein in this region (see picture to the right)?





1. The diagram below shows homeotic genes that govern body development in fruit flies (*Drosophila melanogaster*). Locations governed by certain genes are shown in an adult (below top) and an embryo (below bottom).



Suppose a fly possesses a homeotic mutation in which the “AbdB” gene was replaced by the “lab” gene. How will this change the appearance of the adult fly?